UNITED STATES PATENT AND TRADEMARK OFFICE

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10/078,975	02/19/2002	Petrus Henricus Cornelius Bentvelsen	NL010104	6523

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EXAMINER
TRUONG, THANHNGA B

ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *12/22/2005 (Amendment)*.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-19* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-4,6-15 and 19* is/are rejected.

7) ☐ Claim(s) *5 and 16-18* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/10/02, 6/10/02.*

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Applicant's amendment filed on December 22, 2005 has been entered. Claims 1-19 are pending. Claims 1-7, and 11 are amended and claims 16-19 are newly added by the applicant.

Claim Objections

2.   Claim 4 is objected to because of the following informalities: claim 4 is currently depended on claim 1, however, claim 4 recites the phrase "the channel clock of the primary channel", which has not been introduced any where in claim 1. Examiner assumes that claim 4 is depended on claim 3, since claim 3 does recite the phrase "the channel clock of the primary channel". Appropriate correction is required.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-4, 8, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen et al (US 6,182,030).

      a.   *Referring to claim 1:*

            i.   Hagen teaches a method of embedding a secondary signal of a secondary channel in the bitstream of a primary signal of a primary channel comprising:

            (1)   distorting the bitstream of the primary signal by a particular distortion; and outputting the bitstream of the primary signal having the distorted bitstream, wherein the secondary signal is represented by the particular distortion **[i.e., Hagen discloses embedded coding, the encoder produces a composite bit stream made up out of two or more separate bit streams: a primary bit stream which contains a basic description of the signal, and one or more**

auxiliary bit streams which contain information to enhance the basic signal description (column 2, lines 6-11 and also referring to Figure 1 of Hagen)].

      ii.   Although Hagen does not clearly mention the bitstream of the primary signal is distorted and then outputting the bitstream of the primary signal, Hagen does imply that:

      (1)   The invention allows the correction of distortion resulting from the primary encoding/decoding process for primary coders, which attempt to model the signal waveform **(column 5, lines 33-35 of Hagen).**

      iii.   It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:

      (1)   clearly point out how the bitstream of the signals is being distorted since the ability to strip bits from an existing bit stream while maintaining the ability to reconstruct the speech signal (albeit at a lower accuracy) is an especially useful type of bit rate flexibility **(column 1, lines 25-29 of Hagen).**

      iv.   The ordinary skilled person would have been motivated to:

      (1)   clearly point out how the bitstream of the signals is being distorted because high quality coding of acoustical signals at low bit rates is of pivotal importance to communications systems such as mobile telephony, secure telephone, and voice storage **(column 1, lines 10-12 of Hagen).**

      b.   *Referring to claims 2 and 3:*

      i.   Hagen further teaches:

      (1)   wherein distorting the bitstream of the primary signal comprises inserting local phase errors in the bitstream of the primary signal; wherein the absolute value of the phase error is chosen such that it is smaller than the channel clock period of the primary channel **[i.e., Hagen's invention also provides the encoding of the adaptive equalization operator, while allowing for some coding error, by means of a bit stream which may be separable from the bit stream of the primary coding algorithm (column 5, lines 8-12)].**

      c.   *Referring to claim 4:*

      i.   Hagen teaches:

(1)   wherein low frequency variations are introduced into the channel clock of the primary channel **[i.e., Figure 5 illustrates one example of the estimator 33 of Figure 3. The target signal blocks and the primary coded signal blocks are pairwise Fourier transformed at 56 (other suitable frequency domain transforms may also be used) to produce the signals B(n) and BR(n), which are applied to a dividing apparatus 50 including a divider 51 and a simplifier 53. B(n) is divided by BR(n) at divider 51 to produce T(n), and the phase information is discarded by simplifier 53, so that only the magnitude information .vertline.T(n).vertline. is provided to the encoder 35 (column 8, lines 56-65)].**

d.   _Referring to claims 8, 11, 13:_

i.   These claims have limitations that are similar to those of claim 1, thus they are rejected with the same rationale applied against claim 1 above.

5.   Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen et al (US 6,182,030), and further in view of Chao et al (US 5,204,882).

a.   _Referring to claim 9:_

i.   Hagen and Chao further teach:

(1)   wherein the distortion means comprises a buffer **[i.e., referring to Figure 3 of Chao, element 74 and 82)]** for buffering the bitstream of the primary signal and an encoder for generating a distortion signal and modulating the buffered bitstream of the primary signal before inputting it to the output means **[i. e., a bit stream 36 output from the encoder 35 can be combined with bit stream 38 by a conventional combining operation (see Figure 3A) to produce a composite bit stream that passes through the transmission medium 31. The composite bit stream is received at the receiver and separated into its constituent signals by a conventional separating operation (see Figure 3B). The bit stream containing the information for reconstructing the primary coded signal is input to the reconstructor 13, and the bit stream containing the equalization information is input to the decoder 37 (column 7, lines 4-13 of Chao)].**

b.   _Referring to claim 12:_

      i.   This claim has limitations that is similar to those of claim 11, thus it is rejected with the same rationale applied against claim 11 above.

6.   Claims 6-7, 10, 14-15, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen et al (US 6,182,030), and further in view of Van Wie et al (US 6,240,185 B1).

     a.   *Referring to claim 6:*

      i.   Hagen further teaches:

      (1)   wherein the bitstream of the primary signal of the primary channel consists of a stream of bits for being recorded on an optical data carrier (e.g., a CD or a DVD), in the form of lands and marks **[i.e., referring to Figure 3, the transmission medium 31 corresponds to the channel 12 of Figure 1 (column 6, lines 54-55)].**

      ii.   Though Hagen does not explicitly disclose the transmission medium including an optical carrier, Van Wie teaches:

      (1)   For example, it is generally possible for someone to make an analog recording of program material initially delivered in digital form. Some analog recordings based on digital originals are of quite good quality. For example, a Digital Versatile Disk ("DVD") player may convert a movie from digital to analog format and provide the analog signal to a high quality analog home VCR. The home VCR records the analog signal. A consumer now has a high quality analog copy of the original digital property. A person could re-record the analog signal on a DVD-R (a Digital Versatile Disk appliance and media supporting both read and write operations). This recording will in many circumstances have substantial quality--and would no longer be subject to "pay per view" or other digital rights management controls associated with the digital form of the same content **(column 2, lines 37-51 of Van Wie).**

      iii.   It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:

      (1)   clearly point out the format of the medium being recorded since analog formats will be with us for a long time to come, rightsholders such as film studios, video rental and distribution companies, music studios and

distributors, and other value chain participants would very much like to have significantly better rights management capabilities for analog film, video, sound recordings and other content. Solving this problem generally requires a way to securely associate rights management information with the content being protected **(column 2, lines 52-60 of Van Wie).**

        iv.   The ordinary skilled person would have been motivated to:

        (1)   clearly point out the format of the medium being recorded because persistent association of the commerce and/or rights management controls with content from one end of a distribution system to the other--regardless of the number and types of transformations between signaling formats (for example, analog to digital, and digital to analog) **(column 4, lines 1-6 of Van Wie).**

        b.   *Referring to claim 7:*

        i.   Hagen discloses embedded coding, the encoder produces a composite bit stream made up out of two or more separate bit streams: a primary bit stream which contains a basic description of the signal, and one or more auxiliary bit streams which contain information to enhance the basic signal description **(column 2, lines 6-11 and also referring to Figure 1 of Hagen).** However, Hagen is silent about:

        (1)   wherein the secondary signal comprises a copy protection key or a digital right.

        ii.   Whereas, Van Wie teaches:

        (1)   Electronic steganographic techniques can be used to encode a rights management control signal onto an information signal carried over an insecure communications channel. Steganographic techniques ensure that the digital control information is substantially invisibly and substantially indelibly carried by the information signal. These techniques can provide end-to-end rights management protection of an information signal irrespective of transformations between analog and digital **(see Van Wie's abstract).**

        iii.   It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:

(1)   combine Van Wie's digital right management control information into Hagen's system by providing "end to end" secure rights management protection allowing content providers and rights holders to be sure their content will be adequately protected--irrespective of the types of devices, signaling formats and nature of signal processing within the content distribution chain **(column 3, lines 41-46 of Van Wie)**.

iv.   The ordinary skilled person would have been motivated to:

(1)   combine Van Wie's digital right management control information into Hagen's system since this "end to end" protection also allows authorized analog appliances to be easily, seamlessly and cost-effectively integrated into a modern digital rights management architecture **(column 3, lines 46-49 of Van Wie).**

c.   _Referring to claims 10, 14-15:_

i.   These claims have limitations that are similar to those of claims 1 and 6, thus they are rejected with the same rationale applied against claims 1 and 6 above.

d.   _Referring to claim 19:_

i.   This claim has limitations that is similar to those of claim 6, thus it is rejected with the same rationale applied against claim 6 above.

Response to Argument

7.   Applicant's arguments filed December 22, 2005 have been fully considered but they are not persuasive.

Applicant argues that:

Hagen does not disclose distorting the bit stream of a primary signal by a particular distortion representing a secondary signal.

Examiner does not agrees with the applicant and still maintains that:

Hagen teaches embedded coding, the encoder produces a composite bit stream made up out of two or more separate bit streams: a primary bit stream which contains a basic description of the signal, and one or more auxiliary bit streams which contain information to enhance the basic signal description. In the LPAS setting, this

second approach is implemented by a decomposition of the excitation signal of the LPAS coder into a primary excitation and one or more auxiliary excitations, which enhance the excitation. However, to maintain synchronicity between the encoder and decoder (fundamental for the LPAS paradigm) at all rates, the long-term predictor (present in virtually all LPAS paradigms) can only operate on the primary excitation. Since the long-term predictor provides the most significant part of the coding gain in the LPAS paradigm, this severely limits the benefit of the auxiliary excitations. Thus, these embedded LPAS coding algorithms provide increased bit rate flexibility at the expense of significantly curtailed coding efficiency (column 2, lines 6-11 and also referring to Figure 1 of Hagen). Furthermore, Hagen discloses the invention allows the correction of distortion resulting from the primary encoding/decoding process for primary coders which attempt to model the signal waveform. It is obvious that Hagen teaches distortion of bitstream in order to permit the distortion to be corrected. Besides, Hagen do not need to disclose anything over and above the invention as claimed in order to render it unpatentable or anticipate. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claimed limitations.

Applicant further argues that:

Claims 6 and 7 are depended on claim 1. Van Wie does not remedy the shortcomings of Hagen with respect to claim 1.

Examiner does not agree and still maintains that:

Hagen teaches from Figure 3, the transmission medium 31 corresponds to the channel 12 of Figure 1 (column 6, lines 54-55). Although Hagen is silent on the capability of the transmission medium including an optical carrier (e.g. CD or DVD), Van Wie teaches the resulting steganographically encoded information signal 70 may then be transmitted over an insecure communications channel. Digital-to-analog conversion step 412 may be omitted if a digital communications channel (e.g., an optical disk, a digital satellite link, etc.) is available to deliver the signal (column 19, lines 33-38 of Van

Wie). For example, it is generally possible for someone to make an analog recording of program material initially delivered in digital form. Some analog recordings based on digital originals are of quite good quality. For example, a Digital Versatile Disk ("DVD") player may convert a movie from digital to analog format and provide the analog signal to a high quality analog home VCR. The home VCR records the analog signal. A consumer now has a high quality analog copy of the original digital property. A person could re-record the analog signal on a DVD-R (a Digital Versatile Disk appliance and media supporting both read and write operations). This recording will in many circumstances have substantial quality--and would no longer be subject to "pay per view" or other digital rights management controls associated with the digital form of the same content **(column 2, lines 37-51 of Van Wie).**

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the combination of teachings between Hagen and Van Wie is sufficient.

Applicant further argues that:

Claim 9 is depended on claim 8. Chao does not remedy the shortcomings of Hagen with respect to claim 8. There is no motivation in the prior art.

Examiner does not agree and still maintains that:

Hagen discloses the invention allows the correction of distortion resulting from the primary encoding/decoding process for primary coders which attempt to model the signal waveform. It is obvious that Hagen teaches distortion of bitstream in order to permit the distortion to be corrected. Although Hagen does not explicitly describe the meaning of distortion, Chao teaches from Figure 3, element 74 and 82. Furthermore, a bit stream 36 output from the encoder 35 can be combined with bit stream 38 by a conventional combining operation (see Figure 3A) to produce a composite bit stream

that passes through the transmission medium 31. The composite bit stream is received at the receiver and separated into its constituent signals by a conventional separating operation (see Figure 3B). The bit stream containing the information for reconstructing the primary coded signal is input to the reconstructor 13, and the bit stream containing the equalization information is input to the decoder 37 (column 7, lines 4-13 of Chao).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the combination of teachings between Hagen and Chao is sufficient.

For the above reasons, it is believed that the rejections should be sustained.

Allowable Subject Matter

8.   Claims 5, and 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9.   Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

a.   Kolesnik (US 6,263,312) discloses an input audio signal is compared to an encoded signal based on the input audio signal to detect and reduce, as necessary, distortion in the encoded signal or portions thereof (see abstract of Kolesnik). Furthermore, Kolesnik teaches from Figures 7 and 11 of the distortion detection unit 712 and decoder for decoding the bitstream from the distortion, which is met by claims 11 and 13 of the instant application. Furthermore, the combination

teachings of Hagen and Kolesnik teach the claimed subject matter of claims 1, 8, 10 and 15.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanhnga (Tanya) Truong whose telephone number is 571-272-3858.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached at 571-272-3859. The fax and phone numbers for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

TBT
March 20, 2006

KIM VU
SUPERVISORY PATENT EXAMINER
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